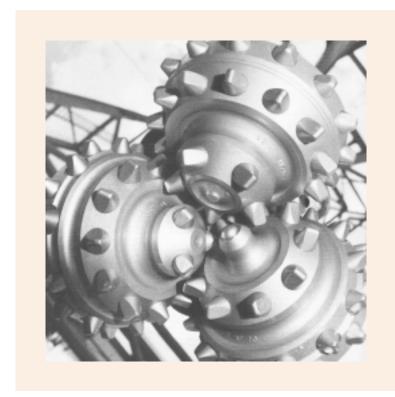
APPENDICES

- Acronyms & Abbreviations
- Oil & Gas RD&D Programs Offices
- Internet Sites for Oil & Gas Program Information
- Program Contacts



OIL AND GAS RD&D PROGRAMS

Photo courtesy of Hughes Christensen

Acronyms & Abbreviations

AEO 99 - Annual Energy Outlook 1999

AGI - American Geological Institute

ANL – Argonne National Laboratory

ANS - Alaska's North Slope

AOR - Area of Review

APEC – Asia Pacific Economic Cooperation

API – American Petroleum Institute

APT – Applied Production Technology

ARCO - Atlantic Richfield Co.

Bbls - Barrels

Bcf - Billion Cubic Feet

BHA - Bottom Hole Assembly

BLM – Bureau of Land Management

BNL – Brookhaven National Laboratory

BOAST – Black Oil Applied Simulation Tool

Btu - British Thermal Unit

CO₂ - Carbon Dioxide

CARB – California Air Resources Board

CGT – Columbia Gas Transmission

CNES – Comprehensive National Energy Strategy

CRADA - Cooperative Research and Development Agreement

DEA – Drilling Engineering Association

DOE – U. S. Department of Energy

DOI – U. S. Department of the Interior

DOT – U. S. Department of Transportation

DOWS – Downhole Oil/Water Separator

E&P – Exploration and Production

ECT - Education/Communication/Training

EE – DOE Office of Energy Efficiency and Renewable Energy

EIA – Energy Information Administration

EM - Electromagnetic

EOB - Extreme Overbalanced

EOR – Enhanced Oil Recovery

EPA – U. S. Environmental Protection Agency

FE – DOE Office of Fossil Energy

FERC – Federal Energy Regulatory Commission

FETC – Federal Energy Technology Center

FTAA – Funds Transfer Agency Agreement

GHASTLI – Gas Hydrate and Sediments Testing Laboratory Instrument

GIS – Geographic Information System

GISB – Gas Industry Standards Board **GLCC** – Gas Liquid Cylindrical Cyclone

GRI - Gas Research Institute

GSAM – Gas System Analysis Model

GSC – Geological Survey of Canada

GTI – Gas Technology Information, Inc.

GTL - Gas-to-Liquids

GU - Gas Upgrading

HADOE – Hispanic Association of the Department of Energy

HBCU – Historically Black Colleges and Universities

HQ - Headquarters

ICGTI – International Centre for Gas Technology Information

ICHOTS – International Center for Heavy Oil and Tar Sands

IEA – International Energy Agency

IGT - Institute of Gas Technology

INEEL – Idaho National Engineering and Environmental Laboratory

IOGCC – Interstate Oil and Gas Compact Commission

IOR - Improved Oil Recovery

IPAA – Independent Petroleum Association of America

JNOC – Japan National Oil Co.

kW - kilowatt

km - kilometer

LANL – Los Alamos National Laboratory **LBNL** – Lawrence Berkeley National Laboratory

LDCs – Local Distribution Companies

LLNL – Lawrence Livermore National Laboratory

LNG - Liquefied Natural Gas

LRC - Lined Rock Caverns

Mcf - Thousand Cubic Feet

MEI - Maurer Engineering,

MEOR – Microbial Enhanced Oil Recovery

MMcf - Million Cubic Feet

MMS – Minerals Management Service

MWD - Measurement-While-Drilling

NADET - National Advanced Drilling & Excavation Technologies

NGA - Natural Gas Act of 1938

NGOs – Non-Governmental Organizations

NIPER – National Institute for Petroleum and Energy Research

NIPSCO – Northern Indiana Public Service Company

NORM – Naturally Occurring Radioactive Material

NPC – National Petroleum Council

NPDES – National Pollutant Discharge Elimination System

NPTO – National Petroleum Technology Office

NRC – National Research Council

OMIs – Other Minority Institutions

Acronyms & Abbreviations (Continued)

ONGPT – Office of Natural Gas & Petroleum Technology

OOIP - Original Oil in Place

OPRA – Oil Program Resource Assessment

ORNL – Oak Ridge National Laboratory

OSAM – Oil Supply Analysis Model

PCAST – President's Committee of Advisors on Science and Technology

PCD – Polycrystalline Diamond Bits

PERF – Petroleum Environmental Research Forum

PM - Particulate Matter

PNL – Pacific Northwest Laboratory

psi – per square inch

PTTC – Petroleum Technology Transfer Council

Quad - Quadrillion Btu

RBDMS – Risk-Based Data Management System

RCRA – Resource Conservation and Recovery Act

R&D – Research and Development

RD&D – Research, Development, and Deployment

RMC – Refrigerated Mined Cavern Storage

SEMP – Safety and Environmental Management Planning

SNL – Sandia National Laboratories

SwRI – Southwestern Research Institute

TAGD – Thermally Assisted Gravity Drainage

TASHER – Thermoacoustic Sterling Hybrid Engine Refrigerator

Tcf - Trillion Cubic Feet

TII – Technology International, Inc.

TORIS – Total Oil Recovery Information System

TRI – Toxics Release Inventory

TSP/PCD – Thermally Stable Polycrystalline Drill Bit

UBD – Underbalanced Drilling Systems

UNITAR – United Nations Institute for Training and Research

USAID – U.S. Agency for International Development

USGS – United States Geological Survey

WMBEs – Women and Minority-Owned Business Enterprises

WSPA – Western States Petroleum Association

U.S. Department of Energy Oil and Gas RD&D Program Offices

Office of Fossil Energy (FE), DOE Headquarters, Washington, DC: Fossil Energy's mission is to foster advanced, more efficient, and cleaner fossil energy technologies through RD&D programs. Fossil Energy is made up of the following offices: Natural Gas and Petroleum Technology, Coal and Power Systems, Strategic Petroleum Reserve, Naval Petroleum and Oil Shale Reserves, and the Federal **Energy Technology Center** (FETC). In the area of oil and gas RD&D, the overall program goals are to: (1) reduce the vulnerability of the U.S. economy to disruptions in oil supply by stabilizing domestic oil production;

- (2) increase domestic energy production in an environmentally responsible manner by increasing domestic gas production, and recovering oil with less environmental impact;
- (3) ensure energy system reliability, flexibility, and emergency response capability of oil and gas transportation and storage systems; and (4) develop technologies that expand long-term energy options.

Office of Natural Gas and **Petroleum Technology** (ONGPT), DOE Headquarters, Washington, DC: Responsible for directing DOE programs to develop improved technologies to find, extract, and process natural gas and crude oil, with an emphasis on improving domestic production from difficult geologic formations. Develops new and more costeffective environmental compliance methods and technologies for oil and natural gas operations. As part of ONGPT, the Natural Gas and Petroleum Import and Export Activities Office is responsible for regulating natural gas imports and exports, maintaining statistics on North American natural gas trade, and overseeing FE's international programs pertaining to natural gas and petroleum. This office identifies export and international business opportunities for U.S. private industry, and develops programs and implements policies that will enhance the U.S. energy industry's ability to compete in overseas markets. Oil supply technology and oil and gas environmental research and development programs are implemented by ONGPT's National Petroleum Technology Office (NPTO). Natural gas supply, storage, and processing related programs are implemented by FE's FETC.

National Petroleum Technology Office, Tulsa, Oklahoma: Responsible for implementing the national oil supply technology and oil and gas environmental research and development programs. NPTO conducts research to quickly apply new and existing technologies to increase oil recovery; performs field demonstrations of advanced oil recovery technologies to extend the economic life of domestic fields; and conducts research to help operators reduce their environmental compliance costs and promote sound Federal and State regulatory decisions.

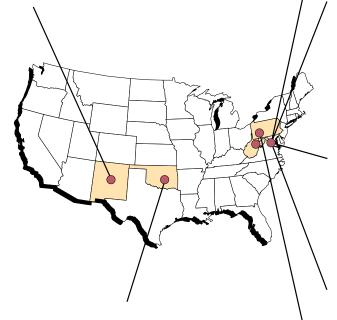
The Federal Energy **Technology Center,** Morgantown, WV, and Pittsburgh, PA: FETC, a Fossil Energy field organization, implements a broad range of energy and environmental programs. Hands-on research is conducted at both FETC sites in state-of-the-art research laboratories that include bench- and pilot-scale facilities. RD&D activities related to natural gas supply are coordinated with ONGPT and focus on advanced drilling, completion, and stimulation technologies; advanced imaging and diagnostics systems; secondary gas recovery; gas storage; advanced gas conversion and upgrading technologies; and gas modeling and analyses.

Internet Sites for Oil and Gas Program Information

NATURAL GAS AND OIL TECHNOLOGY PARTNERSHIP, ALBUQUERQUE, NM

Description of collaborative research activities of National Laboratories with industry to transfer advanced technologies for application to oil and gas exploration, production, processing, and environmental protection.

http://www.sandia.gov/ngotp/



NATIONAL PETROLEUM TECHNOLOGY OFFICE, TULSA, OK

Oil technology program news, calendar of workshops, and resources for companies, including valuable software to download. Information on oil and gas technologies and programs, environmental compliance, program success stories, and other energy links. http://www.npto.doe.gov

Fossil energy-related DOE activities, including news, technology information, publications, speeches, events, issues, international activities, and oil and gas programs and projects, with links to Fossil Energy's Strategic Petroleum Reserve, and Naval Petroleum and Oil Shale Reserves Internet sites.

U.S. DEPARTMENT OF ENERGY, WASHINGTON, DC

government offices and all National Laboratories.

OFFICE OF FOSSIL ENERGY, WASHINGTON, DC

Information about DOE programs, science education, recent DOE news. Links to related

http://www.fe.doe.gov

http://www.doe.gov

ENERGY INFORMATION ADMINISTRATION, WASHINGTON. DC

Extensive archive of historical data, as well as current facts and figures on energy resources and trends in the energy industry. EIA publications can be downloaded from the Internet.

http://www.eia.doe.gov

PETROLEUM TECHNOLOGY TRANSFER COUNCIL, WASHINGTON, DC

National technology clearinghouse for oil and gas producers, offering technology information, problem solving, software, workshops, and resources for industry, especially small independent operators. http://www.pttc.org

FEDERAL ENERGY TECHNOLOGY CENTER, MORGANTOWN, WV; AND PITTSBURGH, PA

Gas technology program and RD&D project fact sheets, electronic business center for procurements, on-line publications, as well as a "cool science" educational page for students. http://www.fetc.doe.gov